

IN THE CLAIMS

1. (Currently Amended) A method for restoring a damaged rail seat located on a concrete rail tie, which comprises

providing said concrete rail tie, said damaged rail seat being located on the upper surface of said concrete rail tie;

applying an uncured polymeric material comprising a substantially sag resistant poly (urethane-urea) material to the damaged rail seat located on the upper surface of said concrete rail tie, said uncured poly (urethane-urea) material being maintained in a fixed position on the damaged rail seat without substantial runoff therefrom during restoring of the damaged rail seat, said uncured poly (urethane-urea) material comprising (a) at least one polyol compound, (b) at least one amine compound, and (c) an isocyanate compound;

prior to forming said restored cured rail seat, contouring the uncured polymeric material applied to said damaged rail seat on the upper surface of the concrete rail tie in situ to form a contoured damaged rail seat having substantially the original dimensions of an undamaged rail seat, the contoured damaged rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said contouring of the uncured polymeric material; and

curing the contoured damaged rail seat under ambient temperature and pressure conditions to form a restored cured rail seat, the uncured polymeric material of said contoured damaged rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said, wherein when the damaged rail seat located on the concrete rail ties is restored, the restored rail seat is properly bondable to an abrasion plate and maintains the gauge of a rail assembly under dynamic operating conditions.

2. (Original) The method of claim 1, wherein the damage rail seat is restored without requiring the use of non-ambient heat.
3. (Original) The method of claim 1, wherein the damage rail seat is restored without requiring the use of non-ambient pressure.
4. (Original) The method of claim 1, wherein the Gel Time of the polymeric material is not more than about five seconds.
5. (Original) The method of claim 1, wherein the Gel Time of the polymeric material is not more than about one second.
6. (Previously presented) The method of claim 1, wherein the Set Time of the polymeric material is sufficient for contouring the polymeric material applied to the damaged rail seat in situ without requiring the use of non-ambient heat.
7. (Original) The method of claim 1, wherein the polymeric material is cured at a temperature as low as 45 °F.
8. (Original) The method of claim 1, wherein the modulus of the restored rail seat is increased to a level which will resist compressive loading and maintain the rail gauge of the rail assembly.

9. (Previously submitted) The method of claim 1, wherein the Elongation of the polymeric material is at least about 10% or higher.

10. (Original) The method of claim 1, wherein the Shore D (24 hour) Hardness of the restored rail seat is at least about 65.

11. (Currently Amended) A method for restoring a damaged rail seat located on a concrete rail tie, which comprises

providing said concrete rail tie, said damaged rail seat being located on the upper surface of said concrete rail tie;

applying an uncured polymeric material comprising a substantially sag resistant poly (urethane-urea) material to the damaged rail seat located on the upper surface of said concrete rail tie, said uncured poly (urethane-urea) material being maintained in a fixed position on the damaged rail seat without substantial runoff therefrom during restoring of the damaged rail seat, said uncured poly (urethane-urea) material comprising (a) at least one polyol compound, (b) at least one amine compound, and (c) an isocyanate compound;

prior to forming said restored cured rail seat, contouring the uncured polymeric material applied to said damaged rail seat on the upper surface of the concrete rail tie in situ to form a contoured damaged rail seat having substantially the original dimensions of an undamaged rail seat, the contoured damaged rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said contouring of the uncured polymeric material; and

curing the contoured damaged rail seat under ambient temperature and pressure conditions to form a restored cured rail seat, the uncured polymeric material of said contoured damaged rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said curing thereof, wherein when the damaged rail seat located on the concrete rail ties is restored, the restored rail seat is properly bondable to an abrasion plate and has a modulus which is increased to a level which will resist compressive loading and maintain the rail gauge of a rail assembly.

12. (Original) The method of claim 11, wherein the damage rail seat is restored without requiring the use of non-ambient heat.

13. (Original) The method of claim 11, wherein the damage rail seat is restored without requiring the use of non-ambient pressure.

14. (Original) The method of claim 11, wherein the Gel Time of the polymeric material is not more than about five seconds.

15. (Original) The method of claim 11, wherein the Gel Time of the polymeric material is not more than about one second.

16. (Previously Presented) The method of claim 11, wherein the Set Time of the polymeric material is sufficient for contouring the polymeric material applied to the damaged rail seat in situ without requiring the use of non-ambient heat.

17. (Original) The method of claim 11, wherein the rail ties having the restored rail seat maintains the gauge of a rail assembly under dynamic operating conditions.
18. (Original) The method of claim 11, wherein the polymeric material is cured at a temperature as low as 45 °F.
19. (Previously presented) The method of claim 11, wherein the Elongation of the polymeric material is at least about 10% or higher.
20. (Original) The method of claim 11, wherein the Shore D (24 hour) Hardness of the restored rail seat is at least about 65.
21. (Currently Amended) A method for restoring a damaged rail seat located on a concrete rail tie, which comprises
- providing said concrete rail tie, said damaged rail seat being located on the upper surface of said concrete rail tie;
- applying an uncured polymeric material comprising a substantially sag resistant poly (urethane-urea) material to the damaged rail seat located on the upper surface of said concrete rail tie, said uncured poly (urethane-urea) material being maintained in a fixed position on the damaged rail seat without substantial runoff therefrom during restoring of the damaged rail seat, said uncured poly (urethane-urea) material comprising (a) at least one polyol compound, (b) at least one amine compound, and (c) an isocyanate compound;

prior to forming said restored cured rail seat, contouring the uncured polymeric material applied to said damaged rail seat on the upper surface of the concrete rail tie in situ to form a contoured damaged rail seat having substantially the original dimensions of an undamaged rail seat, the contoured damaged rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said contouring of the uncured polymeric material; and

curing the contoured damaged rail seat under ambient temperature and pressure conditions to form a restored cured rail seat, the uncured polymeric material of said contoured damaged rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said curing thereof, wherein when the damaged rail seat located on the concrete rail ties is restored, the restored rail seat maintains the gauge of a rail assembly under dynamic operating conditions, properly bonds to an abrasion plate, and has a modulus which is increased to a level which will resist compressive loading and maintain the rail gauge of a rail assembly.

22. (Previously Presented) The method of claim 1, wherein the poly(urethane-urea) material comprises (a) a hydroxyl capped polyol and/or a hydroxyl chain extender, (b) an amine capped polyether and/or an amine chain extender, and (c) an isocyanate compound.

23. (Previously Presented) The method of claim 11, wherein the poly(urethane-urea) material comprises (a) hydroxyl capped polyol and/or a hydroxyl chain extender, (b) an amine capped polyether and/or an amine chain extender, and (c) an isocyanate compound.

24. (Previously Presented) The method of claim 21, wherein the poly(urethane-urea) material comprises (a) a hydroxyl capped polyol and/or a hydroxyl chain extender, (b) an amine capped polyether and/or an amine chain extender, and (c) an isocyanate compound.